

DENALI NATIONAL PARK AND PRESERVE MONITORING SITE

General Information

McKinley Park is an unincorporated community in the home rule Denali Borough. McKinley Park and the Denali Borough have populations¹ of 169 and 1,871 respectively. Figure 1 is a topographical map showing Denali National Park and Preserve in the vicinity of the monitoring site and surrounding geographical features.

McKinley Park is on the George Parks Highway at the entrance to Denali National Park. The Park is home to Mount McKinley, or Denali as it was named by the Tanana Indians, meaning "the great one." At 20,320 feet, it is the highest mountain on the North American continent. The area encompasses 72 square miles of land and 0 square miles of water.

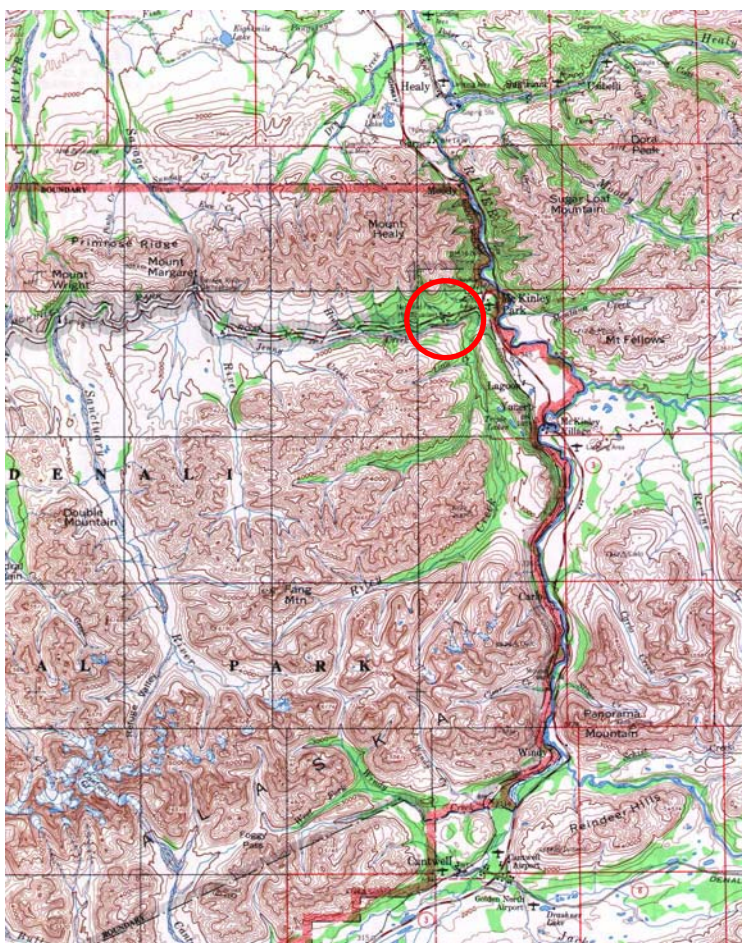


Figure 1 – Topographical map of McKinley Park area.

The Mat-Su Borough average temperatures in January range from -22°F to -2°F; in July, 50°F to 70°F. Annual precipitation is 11.3 inches. Ice fog is common in the winter.

¹ Population data certified December, 1999 by the Department of Community and Economic Development.

There is one particulate monitoring site in Denali Park and it is operated by National Park Service staff. The AIRS ID of the site 02-290-0003.

DENALI SITE – DENALI NATIONAL PARK

Rock Creek Water Treatment Plant

AIRS ID 02-290-0003

Prepared 08 Sept, 2001

Site Information

The site is located on the regional haze IMPROVE monitoring shelter near the water treatment plant and uphill from park headquarters. The latitude² is 63° 43' 33", and the longitude is -148° 57' 48". The ground elevation is 640 meters. There is no central business district, or any sort of urban area in the vicinity.

The location is rural and undeveloped. The site is within the Northern Alaska air quality control region (AIRS AQCR= 009), and is not within any metropolitan statistical area (AIRS MSA= 0000). The samplers are located on the side of the IMPROVE shelter. Denali is an regional scale, background surveillance site. The monitoring objective of Denali is to measure the background levels of naturally occurring fine particulate matter in Alaska. A secondary objective is to compare PM_{2.5} FRM data with the IMPROVE sampler data.



Figure 2 – Partisol samplers on IMPROVE trailer at Denali Park. The 4 inlets visible on the far side of the trailer are from the IMPROVE samplers.

Traffic

The IMPROVE shelter is at the end of a tiny one-lane dirt road with unknown average daily traffic (estimated at less than 5 vehicles per day). The site is approximately

² These values were determined using a 1:25,000 USGS topographical map and/or hand held GPS.

100 meters, and a considerable distance uphill from the main road into the park. That road is paved, but gets limited traffic in summer and virtually no traffic in winter. The road is not open beyond park headquarters in the winter.

Sources

Denali National Park and Preserve is primarily undeveloped wilderness. There are no significant local anthropogenic sources of particulate matter. Wildfire smoke may be expected to impact the site in summer on occasion.

Monitors

The equipment is located on the side of the IMPROVE shelter. See site photographs. The probe is at a height of approximately five meters above the ground. There is uninterrupted airflow around the inlets.

Equipment installed

The particulate monitors are two Rupprecht & Pattashnick Partisol 2000 FRM samplers (serial numbers 200FA203489908 and 200FA203519908). The site is operated year round on the national IMPROVE sampling schedule. The national IMPROVE schedule was changed in the fall of 2000 to match the national every-third-day monitoring schedule used by the PM_{2.5} FRM network. The monitors were installed on 10 Apr, 2000.

Many other atmospheric parameters are measured at the Denali Park site including: ozone, solar radiation, IMPROVE/regional haze, meteorological, and others. These other monitors are operated by NPS staff and data are not reported to DEC.



Figure 2 – View to the west of the samplers.



Figure 3 – View to the north of the samplers.



Figure 2 – View to the east of the samplers.



Figure 2 – View to the south of the samplers.